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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,588

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Yoshio Akiyama

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OLIFF & BERRIDGE, PLC

P.O. BOX 320850

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EXAMINER

JACOBSON, MICHELE LYNN

ART UNIT

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1794

MAIL DATE

DELIVERY MODE

05/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,588	Applicant(s) AKIYAMA ET AL.	
	Examiner MICHELE JACOBSON	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/21/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The term "an inner layer formed of a synthetic resin having a lower compatibility with a synthetic resin forming said outer layer" in claim 12 is a relative term which renders the claim indefinite. The term "lower compatibility" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is impossible to determine the scope of the claim since what the compatibility inner layer with the outer layer is meant to be compared to is not defined.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

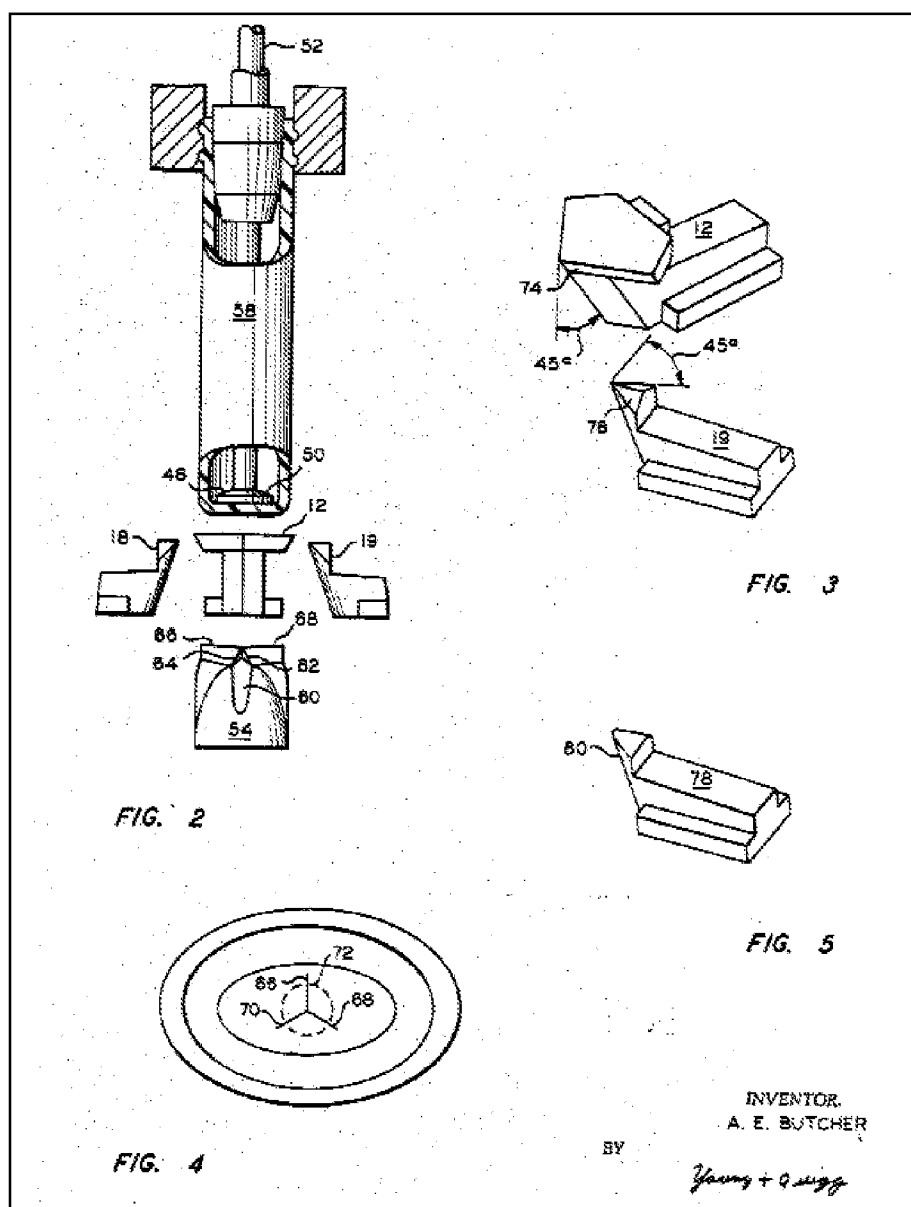
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Butcher U.S. Patent No. 3,663,522 (hereafter referred to as Butcher).

6. Butcher teaches a biaxially oriented polyethylene or polypropylene blow molded article formed by multiple direction pinch off sealing of a hollow parison. (Col. 2, lines 29-32, 62-67, Fig. 2-5) Although 3 blades are shown in the figure there may be any

number of radially spaced blades in excess of one. (Col. 3, lines 9-12) Tuck in members (19, 78) are utilized to restrict the total length of the fusion lines to a comparatively small value as compared with the total area of the bottom of the finished container.

(Col. 4, lines 28-31, Fig. 4) Once the parison is sealed of using the apparatus disclosed it is



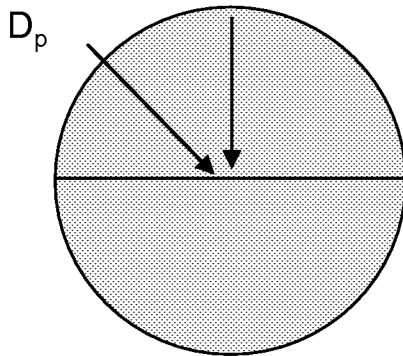
blow molded to form a bottle. (Col. 5, lines 10-11) In an example embodiment, Butcher recites a bottle formed by three way pinching-off of a parison that results in pinch-off lines that define a diameter of 2.4 cm on the bottom of an oval shaped bottle measuring about 7 cm by 5 cm (Col. 5, lines 12-16, Fig. 4)

7. Butcher clearly teaches the limitations of a biaxially oriented polymer blow molded bottle with three radially spaced pinch-off lines caused by mold pieces as claimed in claims 1, 2 and 5.

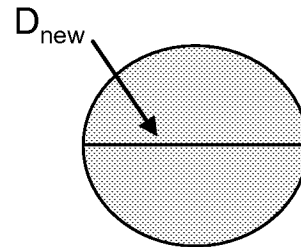
8. The limitations set forth in claim 3 are inherently anticipated by Butcher. Since Butcher recites that there may be any number of blades in excess of one, and that the blades should be radially oriented, an embodiment of the invention with 4 blades would inherently produce a blow molded article with 4 pinch-off lines arranged in a cross shape as claimed in claim 3.

9. The example recited by Butcher is illustrative of how bottle produced by the method of Butcher meets the limitation that the pinch-off lines are formed within a circle that has a diameter less than $\pi D_p/2$ as recited in claim 4. Even though the bottle formed in the example is oval shaped, if you assume that the parison and the pinch-off lines stretched the same amount during blow molding and designate D_p the diameter of the short axis of the oval (5 cm) the diameter recited for the circle formed by the pinch-off lines (2.4 cm) is less than $\pi D_p/2$ as recited in claim 1. Furthermore the diameter of a circle formed by pinching off a parison is inherently less than or equal to $\pi D_p/n$ as can be seen from the following derivation:

Half of the circumference
pushed in to form half of
the pinch off line



Parison
 $C_p = \pi D_p$



Pinched off
Parison
 $C_{new} = \pi D_{new}$

Since the circumference of the parison was pinched off from two directions, the new maximum diameter of the parison produced would have a value of half of the circumference of the parison

$$D_{new} = \frac{1}{2} C_p$$

$$D_{new} = \frac{1}{2} \pi D_p$$

For n number of pinch off lines, the diameter of the pinched off parison would have a circumference equal to $1/n C_p$ which would therefore translate into

$$D_{new} = \frac{1}{n} \pi D_p$$

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butcher U.S. Patent No. 3,663,522 and Schmidt et al. U.S. Patent Publication No. 2002/0061371, now U.S. Patent No. 6,546,133 (hereafter referred to as Schmidt).

12. Butcher is silent regarding multi-layer laminated parisons incorporating PET, PEN, EVOH, polyethylene, polypropylene, virgin polymer, recycled polymer and barrier layers.

13. Schmidt teaches a multilayer polymer container. In one embodiment it is a two-material, three-layer structure that includes exterior inner and outer layers of virgin PET homopolymer or copolymer and in interior core layer of post-consumer PET. (Col. 3, lines 7-10) Barrier layers such as PEN, ethylene/vinyl alcohol and MXD-6 nylon are also recited. (Col. 11, lines 49-55) Polyolefins such as polyethylene and polypropylene, PET and PEN are recited to potentially comprise one or more layers of the preform or container. (Col. 10, lines 39-46)

14. Schmidt and Butcher are both directed towards the same field of invention. The motivation to combine the pinch-off technique of Butcher with the bottle compositions of Schmidt would have been as recited by Butcher that it would have been desirable to

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provide a seam that was more resistant to failure in the pinch-off area. (Col. 2, lines 29-31)

15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed bottles as recited by Butcher with inner, middle and exterior layers of selected from PET, PEN, virgin polymer, recycled polymer, polypropylene, polyethylene, ethylene vinyl alcohol and gas barrier layers as recited by Schmidt and claimed in claims 7-11. Although it is unclear what is meant by the inner layer having a lower compatibility with the outer layer recited in claim 12, it is presumed that since Schmidt recites that the inner and outer layers of the bottle recited by Schmidt can be composed of different polymers that the inside would have a lower compatibility with the outside layer than with itself.

Response to Arguments

16. Applicant's arguments filed 2/25/08 have been fully considered but they are not persuasive. Applicant's arguments on pages 5 and 6 of the remarks regarding the lack of a teaching in Butcher of the diameter of the parison produced by Butcher being equal to $\pi D_p/n$ is addressed in the inherency argument recited above. Additionally, claim 1 does not require that the diameter of the circle formed around the pinch off lines on the bottom of the parison be defined by the equation presented, only that the diameter be less than the value of the equation recited. The diameter of the bottle recited by Butcher meets this limitation.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michele L. Jacobson
Examiner /M. J./
Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794